

Patent Application Number: 10/077,893

REMARKS

Claims 1-39, 42, and 43 are pending in the present application. Claims 40 and 41 have been cancelled without prejudice or disclaimer to the subject matter contained therein.

I. Rejection of Claims 1, 2, 7, 16, 19, 37, 40, and 41 under 35 U.S.C. §103 over Mulier in view of Nappholz et al.

Claims 1, 2, 7, 16, 19, 37, 40, and 41 have been rejected under 35 U.S.C. §103 as being unpatentable over Mulier (US-A-3,718,142) in view of Nappholz et al. (US-A-5,766,227). This rejection of claims 1, 2, 7, 16, 19, 37, 40, and 41 under 35 U.S.C. §103 over the teachings of Mulier in view of Nappholz et al. is respectfully traversed.

As respectfully submitted above, amended independent claim 1 sets forth an tissue implantable device comprising a primary device housing, the primary device housing having a control circuit therein; a shielding formed around the primary device housing to shield the primary device housing and any circuits therein from electromagnetic interference; a lead system to transmit and receive signals between a tissue region of concern and the primary device housing; and a detection circuit to detect a phase timing of an external magnetic resonance imaging pulse field. The control circuit alters its operations to avoid interfering with the detected external magnetic resonance imaging pulse field.

In formulating the present rejection under 35 U.S.C. §103, the Examiner alleges that Mulier teaches all of the subject matter of the above claims except the detection circuit to detect a phase timing of an external electromagnetic field. To meet this deficiency in the teachings of Mulier, the Examiner proposes to modify Mulier with the teachings of Nappholz et al. The Examiner alleges that Nappholz et al. teaches EMI detection in a pacemaker. From these allegations, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to have such a detection circuit in the device of Mulier in order to further prevent externally produced EMI from interfering with the operation of the pacemaker. These positions by the Examiner are respectfully traversed in view of the claims presented above.

As noted above, the Examiner recognizes that Mulier fails to teach the detection of a phase timing of an external magnetic resonance imaging pulse field. Moreover, with respect to the teachings of Nappholz et al. teaches the detection, by a pacemaker, of noise generated by microwave ovens and the such. Nappholz et al. fails to teach or suggest the detection of a phase

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timing of an external magnetic resonance imaging pulse field, as set forth in amended independent claim 1. Moreover, Nappholz et al. fails to teach or suggest that the control circuit alters its operations to avoid interfering with the detected external magnetic resonance imaging pulse field, as set forth in amended independent claim 1.

Therefore, Mulier and Nappholz et al., singly or in combination, fail to teach or suggest, as set forth in amended independent claim 1:

- 1) the detection of a phase timing of an external magnetic resonance imaging pulse field; and/or
- 2) the control circuit alters its operations to avoid interfering with the detected external magnetic resonance imaging pulse field.

With respect to dependent claims 2, 7, 16, 19, and 37, the Applicants, for the sake of brevity, will not address the reasons supporting patentability for each of these individual dependent claims, as these claims depend directly or indirectly from allowable independent claim 1 for the reasons set forth above. The Applicant reserves the right to address the patentability of each of these dependent claims at a later time, should it be necessary.

Accordingly, in view of the above amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw this rejection under 35 U.S.C. §103 over Mulier in view of Nappholz et al.

V. Various Rejections of Claims 3-6, 5-15, 17, 18, and 20-36 under 35 U.S.C. §103

With respect to dependent claims 3-6, 5-15, 17, 18, and 20-36, the Applicants, for the sake of brevity, will not address the reasons supporting patentability for each of these individual dependent claims, as these claims depend directly or indirectly from allowable independent claim 1 for the reasons set forth above. The Applicant reserves the right to address the patentability of each of these dependent claims at a later time, should it be necessary.

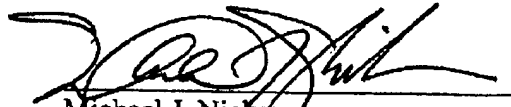
Accordingly, in view of the remarks set forth above, the Examiner is respectfully requested to reconsider and withdraw all the remaining various rejections under 35 U.S.C. §103 that address dependent claims 3-6, 5-15, 17, 18, and 20-36.

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CONCLUSION

Accordingly, in view of all the amendments and reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw all the present rejections. Also, an early indication of allowability is earnestly solicited.

Respectfully submitted,



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